



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10 CFR 50, Appendix R

June 30, 2003  
3F0603-08

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Crystal River Unit 3 – 10 CFR 50, Appendix R Deviation Request Withdrawal

- References:
1. PEF to NRC letter, dated July 17, 2002, "Crystal River Unit 3 – 10 CFR 50, Appendix R Deviation Request"
  2. NRC Generic Letter 86-10, "Implementation of Fire Protection Requirements"
  3. EPRI Report, *Spurious Actuation of Electrical Circuits Due to Cable Fires: Results for an Expert Elicitation*, EPRI, Palo Alto, CA: 2002. 1006961.

Dear Sir:

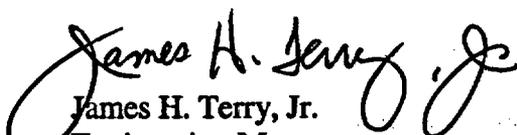
Progress Energy Florida, Inc. (PEF) hereby submits a withdrawal of the request for NRC review and approval of a deviation from fire protection guidance associated with concurrent hot shorts of a three-phase power cable and a two-wire control cable (Reference 1). The concern was that the three-phase power cable was in the same cable tray in the area of concern (the Cable Spreading Room) as other three-phase power cables, and a fire-induced three-phase short could open a high-low pressure system interface valve.

The attachment to this letter explains PEF's continuing review of this issue and that Crystal River Unit 3 is in compliance with the 10 CFR 50, Appendix R regulations for hot shorts involving high-low pressure interface systems.

This letter establishes no new regulatory commitments.

If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing and Regulatory Programs at (352) 563-4883.

Sincerely,

  
James H. Terry, Jr.  
Engineering Manager

Progress Energy Florida, Inc.  
Crystal River Nuclear Plant  
15760 W. Powerline Street  
Crystal River, FL 34428

A000

Attachment

xc: **Regional Administrator, Region II**  
**Senior Resident Inspector**  
**NRR Project Manager**

## **Withdrawal of the Request for Deviation From Fire Protection Guidance**

Progress Energy Florida, Inc. (PEF) submitted a request for a deviation from fire protection guidance associated with concurrent hot shorts of a three-phase power cable and a two-wire control cable. The occurrence of these two hot shorts would cause simultaneous spurious operation of two Decay Heat Removal System suction valves (DHV-3 and -4), which would open a high / low pressure system interface.

The scenario for mal-operation was:

1. A fire in the Cable Spreading Room,
2. The fire causes the three-phase power cable for DHV-3 to be exposed and hot short to an adjacent energized and exposed three-phase cable in the correct sequence (without causing a short to ground) to open DHV-3, and
3. concurrently causes the control cable for DHV-4 to experience an internal hot short which results in an open signal to DHV-4.

Thus, both Decay Heat Removal System suction valves would have opened which would have pressurized a portion of the low pressure Decay Heat Removal System to Reactor Coolant System pressure.

During the detailed engineering for a modification for alternate routing of the DVH-3 power cable, it was determined that the DHV-3 power cable did not run in the same cable tray segments in the area of concern (the Cable Spreading Room) as other three-phase power cables capable of opening DHV-3, and that the three-phase power cables that did run in the same cable tray segments as DHV-3 were not capable of opening DHV-3. Thus, the fire induced three-phase short to open DHV-3 and cause a high-low pressure system opening cannot occur. The hypothesized fire-induced opening of DHV-4 can still occur, however, the high-low pressure system opening cannot occur since DHV-3 remains closed.

The original evaluation determined that high energy, 480 volt three-phase power circuits for fan units ran in the same cable trays as the DHV-3 power cable in the area of concern (the Cable Spreading Room). As noted above, it has been determined that the power cables do not run in the same segments of the cable trays.

The power cables for ten motor-operated valves do run in the same cable tray segments as the DHV-3 power cable. A review of the trip setpoints and breakers feeding the identified circuits determined the circuits are all 100 AMP Frame, 10 AMP Trip, with an instantaneous trip setpoint of "low" (27 Amps). The Locked Rotor Amps (LRA) for DHV-3 is 60 Amps, and the Full Load Amps rating is 10.6 Amps. Due to the current inrush (which is greater than 60 Amps) required for the motor to open or close DHV-3, the circuit breakers for three-phase power circuits above would trip immediately. Thus, these circuits are incapable of opening DHV-3 under a postulated three-phase hot short.

In conclusion, the fire induced three-phase short to open DHV-3 and cause a high-low pressure system opening cannot occur. The hypothesized fire-induced opening of DHV-4 can still occur, however, the high-low pressure system opening cannot occur since DHV-3 remains closed.